



## Eastern Massasauga

### *Sistrurus catenatus catenatus*

The eastern massasauga rattlesnake is a Federal candidate species. Candidate species are those species for which the Service has sufficient information on their biological status and threats to propose them as endangered or threatened. Candidate species receive no legal protection, however, conservation is encouraged since they may warrant future protection under the Endangered Species Act.

#### What is an eastern massasauga rattlesnake?

**Appearance:** Massasaugas are small snakes with thick bodies, heart-shaped heads and vertical pupils. The average length of an adult is about 2 feet. Adult massasaugas are gray or light brown with large, light-edged chocolate brown blotches on the back and smaller blotches on the sides. The snake's belly is marbled dark gray or black and there is a narrow, white stripe on its head. Its tail has several dark brown rings and is tipped by gray-yellow horny rattles. Young snakes have the same markings, but are more vividly colored. The head is a triangular shape and the pupils are vertical.

**Habitat:** Massasaugas live in wet areas including wet prairies, marshes and low areas along rivers and lakes. In many areas massasaugas also use adjacent uplands during part of the year. They often hibernate in crayfish

burrows but they may also be found under logs and tree roots or in small mammal burrows. Unlike other rattlesnakes, massasaugas hibernate alone.

**Reproduction:** Like all rattlesnakes, massasaugas bear live young. The young actually hatch from eggs while still in the female's body. Depending on the health of the individual, adult females may bear young every year or every other year. When food is especially scarce they may only have young every three years. Massasaugas that have young every year, mate in the spring and bear their young in late summer or early fall. In contrast, snakes that have young every other year, mate in autumn and bear young the next summer. Litter size varies from 5 to 19 young.

**Feeding Habits:** Massasaugas eat small rodents like mice and voles but will sometimes eat frogs and other snakes. They hunt by sitting and waiting. Heat sensitive pits near the



Photo by Dick Dickinson

*Massasaugas are docile, secretive snakes that will try to escape rather than fight. But they will protect themselves and may bite if cornered. Be cautious in massasauga areas by wearing leather boots or shoes, watching where you place your hands and feet and walking around, rather than over, fallen logs. Treat massasaugas with respect, like any wild animal. If you are bitten by a massasauga, seek medical help immediately.*

snakes' eyes alert the snake to the presence of prey. They can find their prey by sight, by feeling vibrations, by sensing heat given off by their prey, or by detecting chemicals given off by the animal (like odors).

**Range:** Eastern massasaugas live in an area that extends from western New York and southern Ontario to southern Iowa. Historically, the snake's range covered this same area, but within this large area the number of populations and the number of snakes within populations have steadily shrunk. Today, the massasauga is listed as endangered, threatened, or a species of concern in every state and province in which it lives.

### **Why is the eastern massasauga a candidate species?**

**Eradication:** People seem to have an innate fear of snakes and fear of poisonous snakes is particularly strong. Therefore, not only are massasaugas killed when they show up near homes or businesses, but people may go out of their way to kill or even eliminate them. Indeed, many states had bounties on all rattlesnakes, including massasaugas.

**Habitat loss:** Massasaugas depend on wetlands for food and shelter but often use nearby upland areas during part of the year. Draining wetlands for farms, roads, homes, and urban development has eliminated much of the massasauga habitat in many states. Also, massasaugas are not long distance travelers, so roads, towns, and farm fields prevent

them from moving between the wetland and upland habitats they need. These same barriers also separate and isolate remaining populations from each other. Small, isolated populations often continue on a downward spiral until the massasauga is lost from those areas.

### **What is being done to conserve the eastern massasauga?**

**Research:** Researchers are studying the eastern massasauga to learn about its life history, about how it uses its habitat, and how we can manage for it and its habitat.

**Habitat Management:** Many of the remaining populations of massasaugas are on public land and privately owned natural areas. Some land management practices on those properties harm massasaugas. The Service is working with willing land managers to practice techniques that allow traditional management goals to continue but avoid harming the massasauga and its habitat.

**Education:** Although many people have an innate fear of massasaugas, it is actually a secretive, docile snake that strikes humans only when it feels threatened and cornered. Living, working, or recreating in massasauga areas does require caution, but the massasauga is also an important and beautiful part of the natural heritage of those areas. We hope that education about the docile nature of the snake, its habits, and its role in the ecosystem will help people feel more comfortable living with this rare creature.

### **Why do we want to conserve the eastern massasauga?**

**Ecosystem Role:** The massasauga plays an important role in its ecosystems, both as a predator on small mammals, other snakes, and amphibians and as prey for hawks, owls, cranes, and some mammals.

**Indicator Species:** The fact that massasaugas are in serious decline is a warning bell telling us that something is wrong. The story of the massasauga is similar to the story of many species of plants and animals that need wetlands or a combination of wetlands and uplands to survive. When we drain wetlands and develop in natural areas, we push our wild plants and animals onto ever smaller isolated islands of habitat where it is difficult for them to survive. By conserving massasaugas, we conserve natural systems that support many species of plants and animals.

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